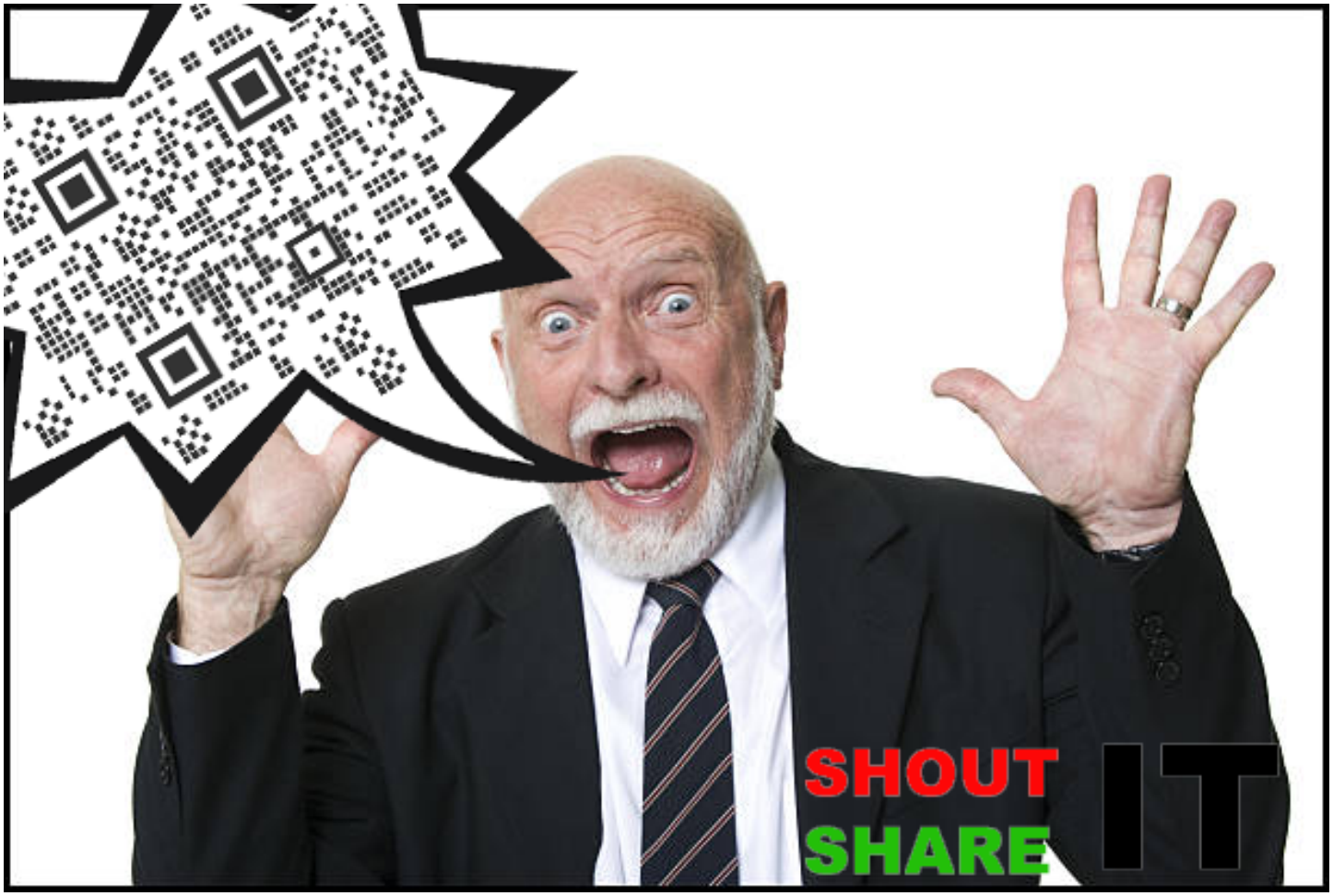
Pacific Seabird Group

BULLETIN

Volume 11 Number 1 1984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PACIFIC SEABIRD GROUP
BULLETIN

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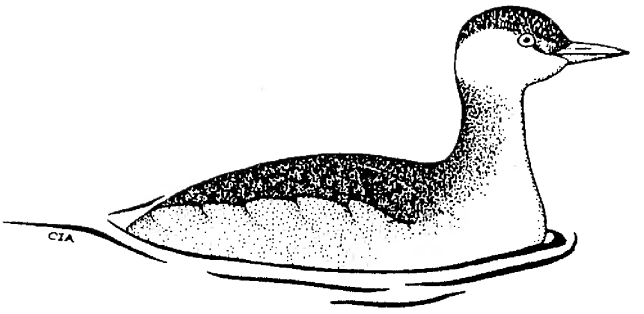
BROWN PELICAN



THE EDITOR'S PAGE

The main, and often only, contact PSG has with individual members is through the Bulletin. The format and content of the Bulletin has been about the same for the last 10 years, and it may now be time to reexamine whether the current format meets the needs of the membership.

Since the Bulletin is published only twice a year, it is difficult to keep members current on many issues. This problem could be solved by issuing the Bulletin quarterly or by issuing a quarterly newsletter. A newsletter would be cheaper to produce and might include material which now appears in the Bulletin.

The Bulletin now costs about half of the annual dues collected. Reducing its size would free funds for other purposes, particularly the publication of symposia.

I think that the sponsorship of symposia and the support of their publication has been the major accomplishment of the PSG. We have been very fortunate in getting other organizations and governmental agencies to assume much of the publication costs of these volumes. It is, however, prudent for PSG to plan to assume a greater part of publication costs, and the recently established endowment fund is a step in that direction. The fund and the present size of the membership, however, are too small for PSG to ensure that every worthy symposium be published.

With the installation of a new Editor slated for the first issue of volume 12, this would be a good time for PSG members to reflect on how well the current Bulletin meets their needs and to recommend possible changes in PSG publications.

A publications questionnaire is bound into the middle of this issue. Please fill it out and return it to me soon.

THE CHAIRMAN'S PAGE

Several major endeavors and some minor ones in progress have made these busy times for your officers and Bulletin Editor. The second issue of the 1983 bulletin includes a 10-year bulletin index compiled by Joe Strauch. This was a major project.

It was also deemed essential that PSG become incorporated. To save legal and other fees Doug Siegel-Causey filled out the forms, which proved to be another major task. I have filed the incorporation papers with the State of California, our permanent address. With luck there will be no delays in their processing.

As directed by the Executive Council at the last meeting, I have set up an endowment fund for organizing symposia on seabird biology and, when funds become sufficient, for publishing symposium proceedings. The seed money of $5,000 for the fund came from a generous contribution of the Bullitt Foundation plus an unusually large surplus in PSG's budget for 1983.

PSG needs an informational brochure about our goals that can be used for a host of general purposes and specifically to recruit new members and to solicit monies for the endowment fund. Susan Quinlan has been working on this project; I hope to have a brochure available before the PSG meeting in December.

The organization needs to enter the computer age by putting our membership files onto a disk. I am looking into a program designed specifically to meet the needs of small nonprofit corporations. Since the program is still in the design stage, PSG can obtain it at no cost if we will help find the "bugs." Doug Siegel-Causey has agreed to try it out.

Already this year PSG has been asked to comment on several conservation issues. Kees Vermeer has provided us with a set of simple but, I believe, effective procedures for handling conservation issues. The Chairman's workload appears to be increasing every year; consequently, the Chairman cannot be primarily responsible for all requests for information or comment.

At the suggestion of AAAS organizer Robert Bowman I organized a PSG-sponsored symposium on the effect on seabirds of the 1982-83 El Niño event. I was impressed by the number of PSG members who were able and willing to participate. Data will come from Christmas Island (Pacific), Hawaii, the Galapagos, Panama, South Africa, the Sea of Cortez, and the west coast of the U.S. Speakers will be D. Ainley, D. Anderson, B. Boekelheide, K. Briggs, M. Coulter, D. Duffy, M. Fry, J. Hodder, G. Hunt, R. Schreiber, and N. Smith.

As I write this, my year of service as PSG's Chairman is about half completed. I feel that a number of important tasks have been accomplished and I hope that, at minimum, the brochure and computerization of the membership list can be finished before my tenure is over.

Judith L. Hand

PACIFIC SEABIRD GROUP NEWS

1984 Annual Meeting

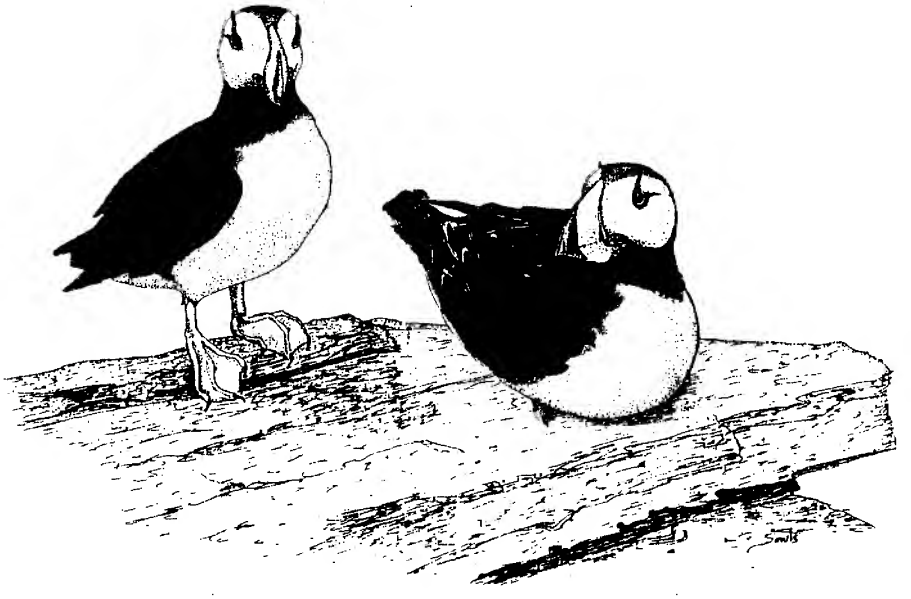
The 1984 Annual Meeting of the Pacific Seabird Group will be held in Long Beach, California, Friday-Sunday, 14-16 December 1984. All scientific sessions will be held at the Hyatt Regency, Long Beach. This new hotel is on the scenic waterfront with nearby marina village shops and restaurants and Shoreline Park, which includes an RV camping area. Dr. Charles T. Collins and Dr. Stuart L. Warter, California State University, Long Beach, are heading the local committee. Full registration details will be mailed out to PSG members in late summer. Plan to attend!

Moving Members

When a member moves and neglects to inform the Treasurer, the copy of the Bulletin sent to the old address is destroyed by the U.S. Postal Service; PSG must incur the expense of sending him another copy, and the member receives his Bulletin late. It costs 26 times as much to get the Bulletin to a member who did not notify the Treasurer of an address change as to one who did. The only way the PSG can remain apprised of your local habitat is if *YOU* send us the address. Therefore, please notify the Treasurer, Douglas Siegel-Causey, 2423 Morningside Dr., Lawrence, KS 66044.

Deadlines for the Next Bulletin

The deadline for all copy for the next issue of the Bulletin is 15 October. Regional Representatives who missed the deadline for this issue are urged to submit a report for the next issue. All information on conservation should be sent to the Chairman of the Conservation Committee (Dr. Kees Vermeer, Inst. Ocean Sci., P.O. Box 6000, Sidney, BC V8L 4B2, Canada) no later than 15 September.



REGIONAL REPORTS

ALASKA, TONY DE GANGE

Pelagic Studies

Nancy Harrison and George Hunt (UC Irvine) are studying seabird distribution and food habits in the Bering Sea. Nancy is also analyzing stomach contents of seabirds taken in the Japanese gillnet fishery last summer. Bob Day (UA Fairbanks) will spend three months on the University of Hokkaido's research vessel OSHORO MARU investigating seabird abundance and distribution in relation to oceanographic conditions. Terry Wahl will join the OSHORO for part of that cruise. Rich Rowlett (NMFS) continues his observations of seabirds from catcherboats in the Japanese gillnet fleet. Rich and 11 other marine mammal observers will continue to monitor seabird mortality in the Japanese fishery. Pat Gould and Gerry Sanger (USFWS) will participate with other American scientists on an interdisciplinary joint USA-USSR cruise in the Bering Sea aboard a Soviet research vessel.

Coastal Studies

John Trapp and Bruce Conant (USFWS) censused wintering waterfowl in Port Frederick, southeast Alaska. Dennis Zwiefelhoffer and Doug Forsell (USFWS) completed their fifth season of coastal surveys around Kodiak Island in winter. Dave Irons, John Trapp, and Dave Nysewander (USFWS) are studying the distribution of marine birds in various marine habitats in Prince William Sound. Declan Troy and Steve Johnson (LGL) are studying seabird populations in waters north of the Alaska Peninsula and eastern Aleutian Islands.

Colony Studies

George Divoky (UA Fairbanks) continues his long-term study of Black Guillemots at Cooper Island in the Beaufort Sea. Ed Murphy (UA Fairbanks) will monitor seabird nesting at Bluff Island in Norton Sound. Bay Roberts and Ed Murphy (UA Fairbanks) with the cooperation of Pat Gould and Dave Nysewander (USFWS) are studying Black-legged Kittiwakes at Middleton Island. The group will monitor breeding success and initiate a banding study. Dave Nysewander and John Trapp (USFWS) are undertaking a similar monitoring program at Chiniak Bay, Kodiak Island, as well as at small inland colonies at Skilak Lake and Lake Louise. Art Sowls, Vern Byrd, Bob Angell, and Carolyn Fleshman (USFWS) are continuing a study of auklet attendance patterns at St. Matthew Island for the third year. Ed Bailey and Dave McCargo (USFWS) are conducting fox removal and seabird censuses at Bird Island in the Shumagins. Fox removal is also an important part of the summer effort for Fred Zeillemaker, Fred Deines, Van Klett, and Chris Ambrose (USFWS) in the Aleutian chain as well as the annual transplant of Aleutian Canada Geese from Buldir to Agattu islands. Cal Lensink, Tony DeGange, Doug Forsell, and Scott Hatch will conduct a study to determine the taxonomic affinities of populations of small Canada Geese nesting on Kaliktagik Island in the Semidis and Chagulak Island in the Aleutian Chain. Dee Boersma and Emily Davies (UW Seattle) will continue long-term studies of Fork-tailed Storm-Petrels in the Barren Islands. Kathy Kuletz will initiate a study of Pigeon Guillemots in Kachemak Bay. The Mineral Management Service is funding a study to monitor seabird populations at Cape Peirce and the Pribilof Islands. At this writing, the recipients of the contract are unknown.

With the continued decline of Cackling Canada Goose, White-fronted Goose, Emperor Goose, and Brant populations in the Pacific Flyway, the U.S. Fish and Wildlife Service has stepped

up its research effort on these species at the breeding grounds on the Yukon-Kuskokwim Delta. Margaret Petersen (USFWS) and Steve Thompson (UC Davis) continue their long-term study at Kokechik Bay. In addition, 10 other field camps staffed with Fish and Wildlife Service personnel are studying breeding geese.

BRITISH COLUMBIA, G. W. KAISER

The 1984 field season is going to be a busy one along Canada's west coast. The impending removal of the moratorium on offshore petroleum exploration has lent a note of urgency to the projects and has increased public awareness of some of the major problems. Reports on the major projects should be available early in 1985.

a. Wayne Campbell (B.C. Provincial Museum) and I have completed an inventory of the Vancouver Island seabird colonies and are preparing a report on the long-term history of those colonies.

b. Kees Vermeer (CWS) and his staff will complete reports on the major alcid colonies of the north coast such as Triangle, Frederick, Hippa, and Langara islands. He is also continuing pelagic surveys.

c. A CWS inventory crew led by Moira Lemon and Michael Rodway are continuing an inventory of the seabird colonies on the Queen Charlotte Islands. They will also be establishing permanent plots to monitor long-term changes in the population density of fossorial species.

d. Problems associated with the permanent plot technique and with the inventory of fossorial seabirds are the subject of Tony Gaston's (CWS) research. He will be examining various methods of determining occupancy and detecting bias in the method.

Several other research projects are under way. Kees Vermeer is examining the breeding biology of Mew and Bonaparte's gulls and the relationship between postbreeding flocks and plankton distribution. Simon Emms (Simon Fraser U.) is leading a new study on the Pigeon Guillemot and Ian Jones (U. Toronto) has started a study of vocalization and social behavior in the Ancient Murrelet.

Two projects at Creston, B.C., are in their final stages. Betty Chapman (Simon Fraser U.) will be finishing fieldwork on the energetics of parenthood in the Black Tern. Scott Forbes (U. Manitoba) will finish the analysis of prey selection by breeding Western Grebes.

WASHINGTON, P. DEE BOERSMA

Battelle Laboratories

R. Fitzner continues his population studies of Ring-billed and California gulls on the Columbia River and assessment of organic and inorganic pollutants in seabirds from Puget Sound.

J. Hall is studying the behavior of Forster's Terns.

Cascadia

S. Speich is doing a photo survey and census of the outer coast of Washington State. He is collecting tissue, blood, and egg samples from seabirds at several sites to check for heavy metals and other contaminants.

Evergreen State College

S. Herman continues to look at shorebirds at Grays Harbor. The media have taken an interest in his efforts to save habitats of particular importance for migrating shorebirds, and it now appears that Bowerman's Basin will not be filled.

Seattle Aquarium

G. Ballew is attempting to breed auklets and murres. This year the Rhinoceros Auklets have copulated several times and have been occupying a nest site.

University of Washington

a. Institute for Environmental Studies

P. D. Boersma began a study of the Magellanic Penguin at Punta Tombo, Argentina; over 7,500 adults and chicks were banded. The study emphasizes natural history and habitat selection.

b. Wildlife Science Group

E. Hoberg is studying the zoogeography and ecological relationships of parasites in alcids and 15 species of Antarctic seabirds. Several species were collected and brought back for the University of Washington Museum. He has just finished his Ph.D.

T. Simons is working for the National Park Service at the Gulf Island National Seashore in Mississippi. He hopes to continue to spend a few weeks each year studying Dark-rumped Petrels.

c. Zoology

A. Harper is working on sibling aggression in Blue-footed Boobies on Isla Isabel in Mexico.

W. Reid begins his second year of studying the reproductive investment patterns and survival of experimentally manipulated clutches of Glaucous-winged Gulls. A NSF dissertation improvement grant is helping to fund his work on Protection Island. He is also examining the food habits of Rhinoceros Auklets.

I. Rathet is studying behavior of Peruvian penguins at the Woodland Park Zoo.

Walla Walla College

J. Galusha, C. J. Amlaner, Jr., and N. Bell are studying sleep behavior, recognition of young by parents, territorial behavior, feeding behavior, and foraging behavior of gulls on Protection Island.

Washington Department of Game

S. Jeffries is studying the effect of U.S. Navy practice bombing of Sealion Rocks on the wildlife of the area, including murres and other seabirds on nearby islands.

U.S. Fish and Wildlife Service

U. Wilson is continuing his research on the behavioral natural history of the Rhinoceros Auklet. He is studying nest site tenacity in nesting boxes on Protection Island and the distribution and abundance of seabirds along the outer coast.

C. Henny is studying pollutants in seabird eggs in Puget Sound.

Independent Researchers

T. Wahl and S. Speich finished the Washington Seabird Colonies Catalog. The research was sponsored by the Fish and Wildlife Service and is available from the Office of Biological Survey, Fish and Wildlife Service, Portland, Oregon.

T. Wahl is continuing his surveys of the distribution of seabirds at sea.

D. Ainley and T. Wahl are undertaking a study to relate seabird distribution in the subarctic Pacific to oceanography. They have about 8,000 censuses.

D. Paulson and J. Erckmann are working on a field identification guide of birds of the Northwest. The first illustrated volume will be on shorebirds and should be finished in 1984.

OREGON, PALMER C. SEKORA

U.S. Fish and Wildlife Service

Daniel L. Boone of Finley NWR has completed his dissertation research on the reproductive biology of the Tufted Puffin but continues to monitor the breeding activities of puffins on Goat Island.

The Office of Biological Services, Portland, has contracted with Robert L. Pitman, Michael R. Graybill, and Daniel H. Varoujean to compile a catalog of Oregon seabird colonies. They are incorporating field data collected in 1979 and historical information gathered over the last few years mainly by Pitman into the seabird colony catalog system for Washington, Oregon, and California. The catalog will be completed in 1984.

University of Oregon

As part of the Seabird/Oil Toxicity Study conducted for MMS, 250 nest boxes were placed in the Leach's Storm-Petrel colony on Hunters Island in 1982. The boxes were monitored in 1983. Michael Graybill and Jan Hodder will monitor them through the 1984 breeding season to determine storm-petrels' use of the artificial nest sites.

Daniel R. Matthews, Daniel H. Varoujean of OIMB, and William Pearcy of Oregon State University continue to study the effects of Common Murre foraging on coho salmon smolts

emanating from the Columbia River estuary by analyzing the stomach contents of birds collected off the Columbia River and censusing seabirds from the mouth of the Columbia River and areas south to Coos Bay.

The 12-year-old cormorant colony study at Oregon Institute of Marine Biology is continuing. This is a basic breeding biology study.

Michael R. Graybill, Vertebrate Curator at the Oregon Institute of Marine Biology, and Janet Hodder are continuing to study the breeding biology of Pigeon Guillemots nesting among the timbers of piers at Coos Bay and in colonies north of Coos Bay.

Robert L. Pitman is continuing a study, begun in 1979, of Leach's Storm-Petrels nesting on Saddle Rock. He is banding adult birds and chicks, collecting and analyzing stomach contents regurgitated by birds removed from mist nets, and documenting breeding chronology and fledging success.

NORTHERN CALIFORNIA, ROBERT BOEKELHEIDE

News of the Ocean

Seabird researchers in California are spending considerable effort observing the demise of the 1982-83 El Niño and how seabird populations respond as conditions return to "normal." Several strong upwelling episodes in March and April 1984 brought cold water to much of coastal northern California; there is also evidence that invertebrate and fish populations have made significant recovery. Some breeding seabird populations, however, continue much reduced this year compared to pre El Niño (1981 and 1982) numbers, suggesting that significant mortality may have occurred in 1983. Hardest hit at the Farallon Islands include Pigeon Guillemots and Brandt's and Pelagic cormorants, which by mid-May numbered less than 50 percent of pre-El Niño populations. It will be several months, and probably years, before all the effects of the 1982-83 El Niño are known.

Current Research

Don Croll (Moss Landing Marine Lab) is working on the diet and distribution of Common Murres and other seabirds in Monterey Bay, with particular interest in the effect of El Niño on these birds. Also at Monterey Bay, Alan Baldridge (Hopkins Marine Lab) continues long-term studies of the distribution and abundance of seabirds and the effects of El Niño.

Virginia Norris (Sacramento State University) and Dave Winkler (University of Gothenburg, Sweden) are studying the wintering patterns of California Gulls in the Sacramento Valley.

David Ainley (Point Reyes Bird Observatory) is investigating how physical oceanographic and biological factors affect pelagic seabird distribution: in the eastern tropical Pacific with Larry Spear (PRBO) and Steve Reilly (NMFS); the subarctic Pacific with Terry Wahl; the Antarctic Ocean with Bill Fraser and Chris Ribic; and off Southern California with Doug DeMaster (NMFS) and Phil Henderson (PRBO).

Wayne and Susan Trivelpiece (PRBO) continue their long-term studies of the ecological and behavioral differences of three sympatric pygoscelid penguins.

Ken Briggs, Breck Tyler, and Dave Lewis (UCSC) are completing 1975-1982 OCS studies on seabird distribution and abundance in central and northern California, including specific studies on Brown Pelican, Sooty Shearwater, and El Niño effects. They are also comparing aerial and ship transect techniques.

Gary Page, Frances Bidstrup, and many others continue long-term studies of Snowy Plover dispersal and breeding habits. Gary continues to monitor shorebird use of coastal estuaries in Marin County.

Dan Anderson, Frank Gress (both UC Davis) and Paul Kelly (California Fish and Game) are completing Brown Pelican feeding ecology studies at Anacapa Island. Dan continues to observe the distribution and abundance of Gulf of California seabirds and post-El Niño effects.

Paul Kelly, Tom Harvey (USFWS), and Roy Lowe (USFWS) continue studying bird use of San Francisco Bay, especially salt pond habitat. They are examining the population status of the California Clapper Rail in San Francisco Bay.

Dave Shuford and Gary Page (PRBO) continue breeding ecology studies of California Gulls at Mono Lake. Joe Jehl (Hubbs Sea World) is also continuing his investigations of waterbird use of the lake.

Teya McElroy, Harry Carter, David Ainley, and Bob Boekelheide (PRBO) continue long-term studies of population and breeding ecology of Farallon Island seabirds. Harry is initiating a study on the timing of molt and hormone cycles in the Cassin's Auklet at the Farallones. With Mike Fry and others at UC Davis, PRBO is continuing to study the effects of petroleum ingestion on the breeding success of Cassin's Auklet. PRBO is preparing for publication the results of the first 13 years of long-term seabird studies at the Farallones.

HAWAII, STEWART I. FEFER

Main Hawaiian Islands

a. Laysan Albatross translocation project: Laysan Albatrosses have nested on the Pacific Missile Range, Mana, Kauai, for several years. This colony has been ravaged by dogs in the past and has also been a concern to the military as a hazard to aircraft. FWS has been attracting albatrosses to Kilauea Point Wildlife Administrative Site on Kauai. During early February 1984, eight Laysan Albatross chicks were moved from nest sites on the Missile Range to sites created on Kilauea Point where the chicks have been artificially fed. To date, two chicks remain alive and healthy. It is hoped that these chicks will return to Kilauea Point to nest when they return to breed in seven to nine years. Dan Moriarty, Kilauea Point WAS, USFWS, P.O. Box 87, Kilauea, Kauai, HI 96754.

b. Kauai streetlight shading: The U.S. Fish and Wildlife Service and the Nature Conservancy of Hawaii have provided funds for shading streetlights on Kauai to reduce attraction and resulting disorientation of Newell's (Townsend's) Shearwaters on Kauai. The streetlight shading will be done by the Hawaiian Electric Company on Kauai in the vicinity of Kapaa, where fallout has been severe. The results of the shading program will be evaluated to determine if future shading in other areas of Kauai is required.

c. Monitoring status of Dark-rumped Petrels in Haleakala National Park. Resource Management, Haleakala National Park, Maui.

d. Monitoring status of Newell's (Townsend's) Shearwater colonies on Kauai. Alan Holt, Nature Conservancy, Honolulu, HI.

Islands Offshore of Main Hawaiian Islands (includes Kaula)

a. Effects of military activities on Kaula Island. To determine effects of visits and overflights on behavior and productivity of seabirds of Kaula Island. S. I. Fefer, USFWS, P.O. Box 50167, Honolulu, HI 96850; R. Walker, Div. For. and Wildl. 1151 Punchbowl St., Honolulu, HI 96813.

b. Seabird oil toxicity study, Manana Island, Oahu. To determine the effects of crude oil exposure on breeding success of Wedge-tailed Shearwaters. D. M. Fry and C. R. Grau, Dept. of Avian Sciences, UC Davis.

c. Inventory of breeding populations of selected offshore islands of Maui and Lanai. Cameron Kepler, Maui Field Station, USFWS, 248 Kaweo Pl., Kula, Maui, HI 96790.

Northwestern Hawaiian Islands

a. Survey and inventory of seabirds on the northwestern Hawaiian Islands, S. I. Fefer, M. B. Naughton. USFWS, P.O. Box 50167, Honolulu, HI 96850.

b. Monitoring seabird populations in the NWHI. Baseline information on breeding parameters, food habits, disease, and pollutant levels. Breeding parameters measured include reproductive success, egg size, and chick growth. During 1984, emphasis on Tern Island, French Frigate Shoals, and Laysan Island. S. I. Fefer, M. B. Naughton, S. Fairaizl, B. Good, USFWS, P.O. Box 50167, Honolulu, HI 96850. Harry Ohlendorf, USFWS, c/o Wildlife and Fisheries Dept., UC Davis, Davis, CA 95616.

c. Energetics of Midway Island Seabirds. Russell Shea, Robert Ricklefs, Univ. Pennsylvania, Philadelphia, PA 19104.

d. Study of incidence of avian pox, lead poisoning, and other mortality factors on Midway Islands and other NWHI. USFWS, Honolulu HI; National Wildlife Health Laboratory, Madison, WI.

Other Pacific Locations

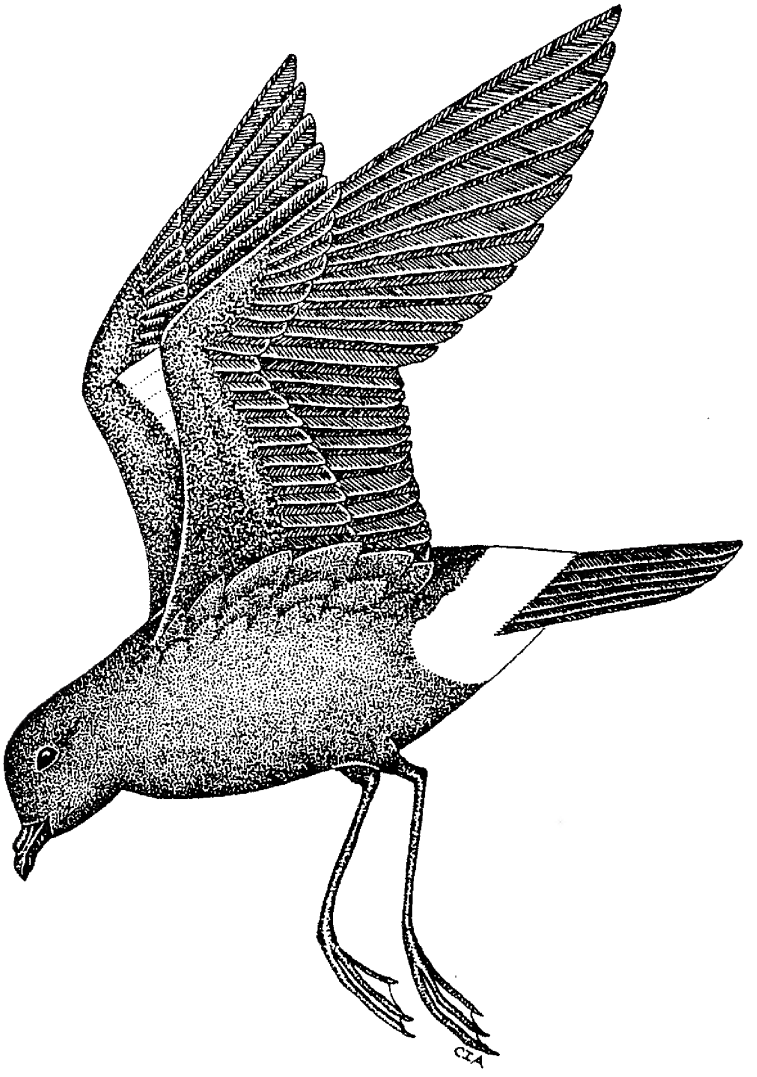
a. Predator control on Jarvis Island, Howland Island: Successful eradication of cats on Jarvis during 1982-83. Planned eradication on Howland Island: Program to commence in 1984. Mark Rauzon, USFWS, Honolulu, HI.

b. Predator control on Christmas Island. A predator control plan is being conducted. Richard Anderson, New Zealand Wildlife, c/o Government of Kiribati, Christmas Island.

c. Monitoring food habits, populations, reproduction, adult weight, egg size, and chick growth in seabird populations of Christmas Island and Johnston Island. Ralph W. and Elizabeth A.

Schreiber, Ornithology Section, Natural History Museum of Los Angeles County, 900 Exposition Blvd., Los Angeles, CA 90007.

d. Monitoring seabirds on Refuge/Federal islands: periodic visits to Jarvis Island, Rose Atoll, Johnston, and Wake to monitor seabird populations. USFWS, Honolulu, HI.



CONSERVATION SECTION

Regional Conservation Issues

Since PSG members are spread over an extensive geographic area, it is my opinion that regional conservation issues should be dealt with and solved locally. To have all issues go through the chairman of the Conservation Committee would place too much of a burden on one person. Moreover, valuable time would be lost in drawn-out correspondence. The following route for all regional conservation issues is proposed:

1. PSG members familiar with a conservation problem should contact his or her regional committee member. Requests for comment from government or public agencies sent to the PSG Chairman will be forwarded to the appropriate regional Conservation Committee members and a copy to the Conservation Committee Chairman.

2. The regional committee member, together with the member with an issue, the regional PSG representative, and at least one other PSG member knowledgable on the subject, should examine a regional conservation problem and decide if PSG action is necessary.

3. If action is desired, the PSG committee member should submit a brief or letter (i.e., a policy statement) for the signature directly to the PSG Chairman. The draft should be in *final* form (double-spaced for optional modification by the Chairman before mailing).

4. The PSG Chairman may need additional input from other PSG members before taking action.

5. A copy of the signed policy statement letter or resolution approved by the Executive Council will be forwarded to the chairman of the PSG Conservation Committee, who will include it in the Conservation section of the PSG Bulletin.

6. The member with an issue and the regional committee member should be prepared to assist in the follow-up of an issue by writing updates on the status of the issue. The updates will be forwarded to the chairman of the PSG Conservation Committee for inclusion in the Bulletin Conservation Section.

I hereby suggest that the following members take charge of regional conservation issues in their respective regions:

Mexico - Enriqueta Velarde	British Columbia - Kees Vermeer
California - Dan Anderson	Alaska - Barbara Johnson
Oregon - Palmer Sekora	Hawaii - Stewart Fefer
Washington - Lora Leschner	Eastern U.S.A. - Ron Naveen

If any of the above members cannot or do not want to serve as the regional "conservation problem shooter," they should inform me soon or suggest another PSG member who is willing to do the job.

In summary, regional issues and those which require immediate response and "noncontroversial issues" should be solved locally with little or no action by the chairman of the PSG Conservation Committee. However, conservation problems of a national or international scope or

ones that may be controversial should be brought to the attention of the Committee Chairman. Stewart Fefer suggested the following route for issues of the latter kind:

> "Issues of this type probably will require response from the membership. The member who has an issue for consideration would send the issue and background documentation to the Chairman, Conservation Committee. The Chairman would contact Regional Representatives with knowledge on the subject. The Chairman, Regional Representatives and the person submitting issues will confer on the response which will be published in the PSG Bulletin for comment. After comments are received and appropriately considered, the PSG Executive Council will vote on the resolution and if the resolution is accepted will send a position statement to the appropriate place. This will be printed in Bulletin."

Additional Members of PSG Conservation Committee

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McLean, Virginia 22101

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Kees Vermeer, Chairman
PSG Conservation Committee

SPECIAL CONSERVATION REPORT

Alaska Seabirds and OCS Oil Development

The Department of the Interior's current five-year accelerated oil and gas leasing program is making almost one billion acres of Outer Continental Shelf (OCS) lands available to the oil industry. Over half, or 550 million acres, is being offered in Alaska. Although William Clark, the new Secretary of the Interior, has made modifications to the program developed by his predecessor, James Watt, the market is still being flooded with leases at far less than fair market value.

Three major lease sales encompassing about 226 million acres are scheduled in Alaska this year. They include the Navarin Basin, the Diapir Field, and a combination sale of Cook Inlet and the Gulf of Alaska. In many cases, the leasing program is proceeding despite the lack of proven technology in heavy pack-ice conditions of deep ocean waters, comprehensive contingency planning for oil spill cleanup, and worst-case scenarios for major oil spills.

Another disconcerting aspect of the leasing program is the reduced funding for seabird research. In 1976 the U.S. Fish and Wildlife Service was appropriated $1.2 million, and employed 14 permanent staff and over 20 temporary field personnel to conduct migratory bird research. For the past three years, the agency's budget has been cut to less than $600,000 for this work. Currently, there are nine permanent staff and two temporary field staff projected for this summer in the Service's migratory bird program. Important long-term comprehensive biological studies which are thought to be critically needed to estimate effects on wildlife are not being adequately funded.

Along Alaska's 34,000-mile coastline (55 percent of the U.S. total), an estimated 60 million seabirds breed in 1,200 known colonies (Sowls, pers. comm.). Research indicates that "Oil and gas activities within major foraging habitats of vulnerable seabird populations in the Bering Sea represent the greatest threat to seabirds in Alaska" (*The Relative Sensitivity of Seabird Populations in Alaska to Oil Pollution*, Technical Report #3, Bureau of Land Management, 1981). The report states that, considering oil pollution sensitivity and population size of endemic seabirds, "development in the St. George and Norton Basins geographically pose the most risk to the largest vulnerable populations."

Islands in the Bering Sea region, including the Pribilofs, those of northern Bristol Bay, St. Matthew, Hall, St. Lawrence, and Little Diomede support some of the most important seabird colonies in North America. Millions of seabirds from colonies on these islands feed over the vast OCS tracts proposed for leasing in the region.

Should oil be discovered in commercial quantities north of the Aleutian Chain, heavy tanker travel is likely through Unimak Pass. This pass is an extremely important migratory corridor for Alaska seabirds and mammals. Concentrations of shearwaters near the pass have been estimated in the hundreds of thousands in one flock (Gerald Sanger, report to PSG, Jan., 1984); these would be threatened should a major oil spill occur.

Meanwhile, a highly controversial land exchange involving federally protected seabird habitats has been negotiated without public involvement, to expedite offshore oil production. The National Audubon Society, joined by a coalition of other conservationists and Alaska Native fishermen, filed suit on August 10, 1983, to void an agreement that, in essence, gave away more than 4,000 acres of public lands on St. Matthew Island to private interests. This island is a National Wildlife Refuge and Wilderness Area. The CIRI Group, comprived of three Native corporations, was given the lands and will in turn lease them to ARCO Alaska, Inc., for use as an airbase and port facility for oil exploration and production in the Bering Sea Navarin Basin, west of the island. The case will be argued before federal district court in Alaska sometime this summer.

Conservationists and Native fishermen are not the only ones concerned. In January 1984, Alaska's Governor Sheffield asked Interior Secretary William Clark for a delay of three upcoming federal offshore sales. Sheffield urged that the North Aleutian Basin Sale in Bristol Bay be postponed at least until 1994. This region contains one of the world's largest fisheries as well as habitats for numerous species of marine mammals and birds. Its importance to the economy of Alaska cannot be overstated. Yet it is a region which has shown low potential for production of commercial quantities of oil and gas. Sheffield also asked for a delay of the Barrow Arch sale until 1987 because the "Chukchi Sea remains one of the least understood areas of the OCS nationwide." A two-year delay was also requested for the second St. George Basin sale because the first sale leases had just been awarded after almost a year of litigation over environmental concerns.

The Governor requested that State concerns be given greater consideration in planning future sales. He said that the accelerated lease sale is "too much, too fast" and does not give the state or oil industry time to determine effects of oil development on coastal peoples, their land, and their industries. Governor Sheffield considers the pace of the proposed OCS leasing beyond the scope of either the federal or state government to carry out safely.

ARCO Alaska President, Harold C. Heinze, countered by stating that exploration for oil must proceed quickly if the State's economy is to remain healthy and that governmental agencies should not let "small public interest groups" pressure them into allowing only a few exploratory

wells a year. Earlier lease sales in St. George Basin and Norton Sound have been litigated by a coalition of Native, fishing, and conservation groups.

On 11 January 1984 the U.S. Supreme Court ruled that coastal states have no legal right to block the federal government's sale of oil and gas leases more than three miles off their shorelines. The conclusion was that the Coastal Zone Management Act (CZMA) of 1972 does not apply to oil and gas leases on the OCS. A day after this ruling, Interior Secretary Clark announced that he will communicate with states and other interest groups before and during the sale process.

Although drilling restrictions were imposed in 1979 to protect the endangered bowhead whale, and because of unproven oil spill cleanup technology in broken ice, these restrictions are being questioned by the oil companies and the State of Alaska. Currently the industry is not permitted to drill in deep, oil-bearing formations in the Beaufort Sea from May 15 to July 1 and again during whale migration from September 15 to November 1, or until freezeup, whichever occurs first. The oil industry wants the regulations relaxed, arguing that limiting drilling to roughly 8 months a year increases exploration costs and delays the search for new discoveries. Conservationists and North Slope Borough officials maintain that it has not been demonstrated that oil can be adequately cleaned up in broken ice. A State decision on whether or not to ease seasonal drilling restrictions is expected to be made by the end of March.

Such fears are not unfounded. In mid-February, the U.S. Coast Guard's "National Strike Force," an elite corps that specializes in mopping up oil-chemical spills around the world, had nothing but trouble when they went to Kachemak Bay, Alaska, to test equipment in a subarctic environment. They wanted to determine its effectiveness if the industry-sponsored oil spill response team required help.

The following problems were cited:

1. A 620-foot floating boom used to contain oil spills malfunctioned and failed to contain chunks of ice that pressed against it. The ice chunks tilted the barrier and floated under it;

2. A new hydraulic pump wouldn't start;

3. Ice clogged oil intake hoses, making it impossible to draw water or oil through a series of small holes in the boom;

4. Boat batteries succumbed to subfreezing temperatures; and

5. A buoy placed at the test site the previous day broke loose during the night.

With this highly trained oil spill cleanup team experiencing so many difficulties in the relatively mild conditions in Kachemak Bay, conservationists question how effective they would be in heavy pack-ice areas of the Beaufort and northern Bering seas.

The National Audubon Society in cooperation with other concerned groups in Alaska and throughout the nation recommends the following changes in the federal government's Alaska OCS oil and gas leasing program:

1. Limit lease sales to a few million acres, focusing on areas with the highest oil and gas potential while avoiding areas of high environmental sensitivity;

2. Cancel proposed lease sales in the North Aleutian Basin, more commonly known as Bristol Bay;

3. Delay for two years the first offering of the Barrow Arch (Chukchi Sea), due to extreme sea ice and weather conditions and little technological experience there;

4. Delete areas in the western and eastern Diapir Field, as recommended by the Governor of Alaska, and permit no leasing outside the 15-meter isobath anywhere in the basin;

5. Provide an interval of five years between first and second sales in Alaska OCS planning areas. This would allow time to assess the effects of oil and gas activities on a particular area and to gain valuable experience that could then be applied to future leasing;

6. Provide more adequate funding for biological studies, including those related to the seasonal distribution and abundance of seabirds and vulnerability of seabirds to oil spills and disturbance from development activities;

7. Cancel the land exchange that would allow an OCS support base on the St. Matthew Island Wilderness.

It will take a major effort by all interested parties to make sure that OCS leasing is conducted in a manner that balances our nation's demand for hydrocarbons with the need to safeguard sensitive and valuable coastal marine resources. PSG's Conservation Committee will be commenting on the current accelerated oil and gas leasing program in Alaska. If you wish to voice your opinions on this issue, contact Barbara Johnson or Chairman Kees Vermeer.

Barbara Johnson

REGIONAL CONSERVATION MATTERS

Alaska

Seabird mortality in gillnets of the Japanese salmon mothership fishery was monitored in 1982 and 1983 by personnel of the U.S. Fish and Wildlife Service and National Marine Fisheries Service with the cooperation of the Japanese government and Japanese salmon industry. Twelve observers counted birds killed in 271 gillnet sets during the 1982 fishing season and 266 gillnet sets in the 1983 fishing season, providing the first detailed information on species composition, age, sex, and breeding condition of birds taken in the fishery. Eighteen species of seabirds were taken, with Short-tailed Shearwaters and Tufted Puffins numerically dominant. Least common were Cassin's Auklets, Rhinoceros Auklets, a Pigeon Guillemot, and a Dovekie. Hatching-year Short-tailed Shearwaters and immature alcids were most frequently caught in the nets, although breeding alcids were caught in nets set close to Agattu Island in the Aleutian Chain. An average of 22 seabirds were caught per set in waters south of the Aleutian Chain in 1982 and over 30 per set were taken in 1983. Preliminary analysis suggests that the difference between years is largely the result of the fleets' fishing closer to land in 1983 than 1982 and the tendency of shearwaters in 1983 to form feeding associations with sea lions along the net and subsequently become entangled. Considerably fewer birds were taken per set in the Bering Sea in both years. Estimates place the overall kill of seabirds in the mothership fishery in 1982 between 193,000 and 200,000 seabirds. Estimates of the 1983 kill are expected to be higher, although catch statistics were more variable in 1983 compared to 1982. Little information is available for the Japanese land-based

salmon fishery and the Japanese and Taiwanese squid driftnet fisheries that operate in international waters. Continued monitoring of the seabird kill in the mothership fishery is expected in 1984. A report summarizing the 1982 and 1983 data should be available in autumn 1984.

Tony DeGange

Hawaii Region

A) Hawaiian Islands NWR Master Planning: The Hawaiian Islands National Wildlife Refuge includes several of the most important Central Pacific seabird colonies. The northwestern Hawaiian Islands harbor seabirds colonies that contain about 2.7 million breeding pairs of 18 species. Hawaiian monk seals, green sea turtles, Laysan and Nihoa finches, the Nihoa Millerbird, Laysan Duck, many rare native plants, and unknown numbers of rare native invertebrates also inhabit these unique islands.

Interest in expanding commerical fishing around these islands has increased concern regarding effects on refuge wildlife. Public comment relating to the continued protection of these habitats will help FWS plan properly for their future. In March, the USFWS requested public comment on management objectives and alternatives for these unique wildlife habitats.

Based upon FWS statutes and policies as well as public comment, refuge objectives and strategies to meet these objectives have been developed. Refuge objectives concerning seabirds are directed towards maintaining populations, distribution and diversity of nesting and migratory populations in the NWHI. The set of actions that FWS considers the minimum necessary to meet these objectives are presented below. Additional actions will be proposed which provide a balance between resource preservation and resource utilization. Baseline actions include:

1. Monitoring seabird and other migratory bird populations;

2. Restricting access to seabird colonies;

3. Developing/implementing oil spill contingency plan;

4. Preventing, monitoring, and controlling introduction of harmful exotics;

5. Enhancing public awareness.

A combined Draft Master Plan/EIS will appear in July, with a Final Master Plan/EIS scheduled for the end of this year.

B) Midway Atoll Refuge Proposal: A proposal approved by the FWS for the creation, in cooperation with the Department of Navy, of an overlay National Wildlife Refuge on Midway Atoll. This would enable FWS to carry out its mandates and meet national objectives more effectively as well as provide additional protection to this important seabird colony. Several threats to seabirds on Midway Atoll that require immediate action include rats (especially in Bonin Petrel colonies), lead paint chips (which poison many albatross fledglings), disease vectors (exotic mosquitoes, flies, and exotic birds [canaries and mynas] that may serve as vectors for avian pox virus), and exotic plants that outcompete native plants serving as habitat for nesting seabirds. In addition, control of bird air strike hazards (primarily due to albatross populations) is of major concern to the Navy and FWS. The FWS and the Navy will be active on this proposal in the near future. Public support for this proposal would be valuable.

C) Exotic predator eradication: A perennial conservation problem on seabird colonies, the eradication of exotic predators on Pacific islands remains a high priority. Significant progress has been made on refuge islands with the recent eradication of cats from Jarvis Island. A recent trip to this island revealed an increase in ground-nesting birds, with no evidence of predation or cats. Eradication efforts are planned for Howland Island during the next year. On Christmas Island, Richard Anderson of the New Zealand Wildlife Service has developed a plan to eradicate cats that is being implemented by the Kiribati government. Letters of support for the Kiribati government's efforts would be useful to ensure its continuation.

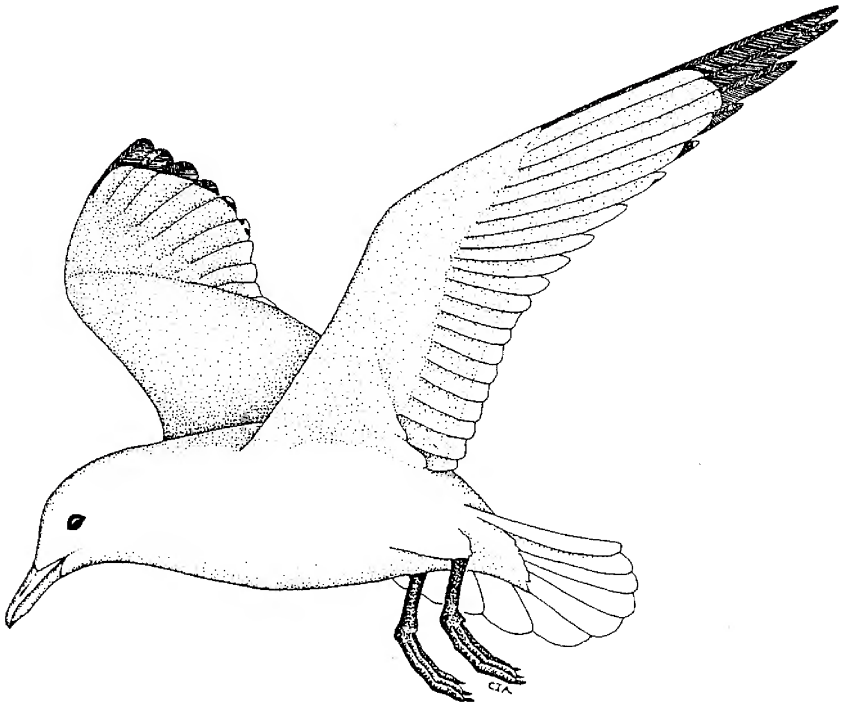
Stewart I. Fefer

Mexico

1. The Mexican Wildlife Service presently plans a long-term program to curb disturbance by tourists in seabird colonies in Mexico.

2. A conservation plan is being prepared by Dan Anderson and Enriqueta Velarde in cooperation with the Nature Conservancy to protect seabird colonies in the Gulf of California, Baja California. The plan will be presented to the Mexican Wildlife Service and National Parks.

Enriqueta Velarde



WASHINGTON REPORT

In Washington, government workers refer to the summer and fall before a presidential election as the "silly season." In other words, rational decisionmaking is discarded for the whims of the political season. The normal Washington chatter on politics, government, real estate, and weather centers on one topic—who is going to win in November. The press has given generous coverage to the current administration's views on environmental protection. What are the views and positions of the other major Presidential contenders—Mondale, Hart, and Jackson? The outcome of this presidential election will have a major effect on the future of environmental protection in the 1980's and beyond. Prior to the national conventions is an excellent time to compare the major presidential candidates' records on environmental issues affecting wading birds and seabirds.

Almost all political candidates will say they are for energy conservation and a healthy environment. Every year, the League of Conservation Voters does an in-depth survey of major candidates' positions and votes on a wide range of environmental issues from air pollution to wildlife. According to their report, "Presidential Candidates in 1984" (available for $6 from the League of Conservation Voters, 320 Fourth Street, S.E., Washington, DC 20003), upon which this report is based, "there are significant differences between the Democratic primary contenders, nearly all have demonstrated important leadership on at least one environmental issue, and each has a record and campaign position which are, overall, acceptable to the environmental movement. The differences between these Democrats pale in comparison to the gulf that separates them all from President Reagan, who has the worst (environmental) record of any President in history."

RONALD REAGAN

In areas that directly or indirectly affect the lives of wading birds and seabirds, the Reagan administration has initiated one pro-environment legislative initiative. The administration supported a law that stopped federal subsidies for development on most undeveloped barrier islands. This will relieve pressure on a valuable and fragile ecosystem that provides nesting and feeding grounds for many shorebirds, gulls, and terns. The administration also completed an ecological mapping inventory of fish and wildlife resources along the Pacific Coast begun in the previous administration and initiated a mapping of the Gulf of Mexico.

Administrative actions and proposed actions with a negative effect on the environment are more numerous. A selection of critical actions with negative effects, and some attempted actions which would have resulted in negative effects had they succeeded follow. The administration:

- accelerated offshore leasing of oil and gas;
- tried to eliminate funding for the Coastal Zone Management Act;
- tried to end *all* funding for the Sea Grant program, which provides federal money for research on coastal areas;
- attempted to issue permits for burning highly toxic PCB's at sea before the government establishes regulations to ensure the safety of this procedure;
- proposed annually to halve the budget for listing new threatened or endangered species in the U.S.;

- tried to eliminate critical wildlife research facilities such as the National Wildlife Health Lab;

- attempted to "zero out" grants to universities and state wildlife agencies for wildlife and fishery training and research;

- tried to stop all federal aid for the Cooperative Wildlife and Research Units, which train many of America's wildlife biologists;

- tried each year (unsuccessfully) to cut back funds for habitat conservation program of the National Marine Fisheries Service;

- tried to delist the Marine Sanctuary created by President Carter at Monterey Bay;

- cut by a third the Fish and Wildlife Service's budget for studying the effects on wildlife of proposals to dredge and fill wetlands;

- sought to eliminate funding for two major international programs to conserve wildlife habitat and natural areas, including the World Heritage Convention.

Of particular interest to those concerned with seabird conservation is the administration's attempt to avoid meeting its responsibility to protect wildlife refuges by giving or trading them away to private interests, particularly a portion of St. Matthew Island Wildlife Refuge—the home of five million protected seabirds and waterfowl—to Atlantic Richfield for use as a major oil exploration staging base. The trade may violate the 1970 Congressional blanket ban on development in the islands and is being challenged in court by seven environmental groups.

Another item of interest is the push for a "minerals regime" in Antarctica, which would facilitate the granting of commercial licensing for oil drilling. The President cut to zero the U.S. budget for Antarctica research, which would help assess the impact of such development. Oil drilling could severely reduce the number of krill, small organisms on which all the fish, birds, and mammals in the Southern Ocean depend for survival.

WALTER MONDALE

Walter Mondale had a fine voting record as a senator in the middle 1970's. However, it is difficult to assess Mondale's vote on environmental issues during his tenure as vice president. Some key indicators of Mondale's views on issues that affect wading birds and seabirds are:

- strong support of wetland protection as Minnesota Attorney General in the 1960's;

- call for an end to federal actions that destroy wetlands;

- leader of the Senate fight to establish the Minnesota Valley National Wildlife Refuge, an important part of the Mississippi Flyway for migratory birds;

- consistent voting record for a strong Marine Mammal Protection Act;

- support of a 200-mile territorial limit off our coasts to enable U.S. to restrict foreign fishing practices.

GARY HART

Of all the presidential candidates, Senator Gary Hart is probably the most publicly identified as an environmentalist. With the exception of some water projects, Hart's efforts are nearly always aimed at improving legislation. Hart's position on issues that affect wading birds and seabirds is indicated by:

- his perfect record on Senate floor votes on ocean, coastal, and wetlands protection;

- his introduction of legislation to stop Reagan from "trading away" many public lands designated as Wildlife Refuges, Wilderness Areas, or Wild and Scenic Rivers or Trails;

- his sponsorship of a successful floor amendment which added 14.5 million acres of Wilderness Refuge to the Alaskan Lands Act. These Alaska Wildlife Refuges include Yukon Flats, the most important nesting area in North America for migratory water birds as well as Bald Eagles.

- current sponsorship of legislation to prevent Reagan from unilaterally trading away land on St. Matthew Island to Atlantic Richfield.

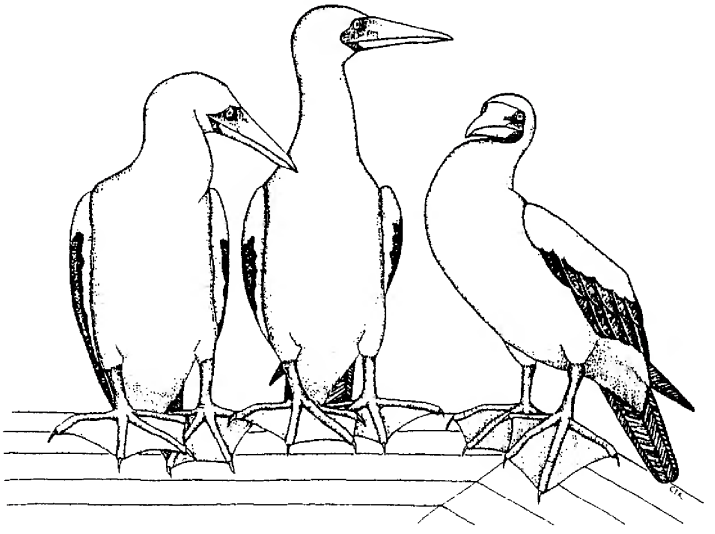
JESSE JACKSON

Jesse Jackson does not have a substantive record on environmental or energy issues. He has developed fairly detailed positions on acid rain and energy, which the League of Conservation Voters regards as excellent. His statements on other environmental issues are good but limited.

* * * * * * * *

Protection of the environment is just one factor to weigh before casting a vote for an elected office. No matter who the final candidates are, it is important that everyone exercise his/her right to vote on November 6.

Daphne Gemmill



INTERNATIONAL COUNCIL FOR BIRD PRESERVATION

11 June 1984

An Open Letter to Seabird Ornithologists:

As the newly appointed Chairman of the Seabird Specialist Group of the ICBP, I am writing to ask for suggestions, ideas, and help from all of you. Christoph Imboden (Director, ICBP) has suggested two main tasks for our specialist group:

1) to recommend to ICBP an integrated program of a) surveys of the world seabird populations; (b) conservation oriented research projects; and c) conservation action projects with urgent, important, and desirable priorities.
2) to assist in developing seabird projects for inclusion in the ICBP Conservation Program, the ICBP Data Bank Program, and the ICBP Migratory Bird Program.

If you desire information on any of these programs let me know.

We are interested in identifying individuals who have data on various species or regions and who are willing to contribute to our program. If you are interested in cooperating or know someone who might be, please write to me.

In mid-1984 the ICBP will publish the proceedings of a workshop held in 1982 that gives a reasonably complete data set on the status of the seabirds of the world and the threats to those populations. We want to use those data as a starting point to determine what further data are needed. I believe the best way to proceed now is to ask for volunteers willing to be responsible for individual species, genera, families, regions, or those who have data to provide.

The questions we want to answer by each taxon are:

1) distribution, numbers, breeding seasons, and status.
2) habitat requirements (nesting, roosting, feeding, wintering, etc.).
3) food habits, food requirements, and energetics.
4) distribution and movements at sea (what specific conservation problems at sea need to be addressed?).
5) clutch size, egg size, chick growth data, breeding biology information (what is available and what do we need to know?).
6) basic data on morphology (plumages, molt, weight, body size, etc.).
7) behavioral data.
8) what specimens exist and their nature (study skins, spirits, skeletons).
9) complete bibliographies.
10) WHAT ELSE?

We need individuals who are willing to WORK, to communicate with other knowledgeable specialists, and to organize, receive, and collate notices of what data are/are not available (both published and unpublished). Volunteers who are interested in handling this data should contact me and we will look into how to proceed with formats and other matters.

Let me know what you think about these preliminary suggestions. I can only act to stimulate effort on behalf of seabird conservation through the ICBP, and I view my job as to open communication on behalf of the ICBP programs. Please write me now with any thoughts you may have. Remember, it is up to you to let me know what you think. This MUST be a joint undertaking.

I look forward to serving in this exciting project.

Sincerely,
Ralph W. Schreiber

ALDABRA: PROTECTED AT LAST

Aldabra's status as one of the world's great natural wonders was ensured in 1982 when the atoll was declared a "World Heritage Site" by UNESCO. The first coral atoll to be so designated, Aldabra joined other World Heritage sites of important conservation interest, such as the Galapagos Islands.

But Aldabra's treasure house of rare and endangered wildlife has not always enjoyed such protection. In 1874, the famed British naturalist Charles Darwin and several of his colleagues urged that Aldabra's giant tortoises be saved. By then, the tortoises, once widespread on the Seychelles Islands, were extinct everywhere but on Aldabra; even there, they were vanishing because they were hunted by passing mariners who prized their meat.

In 1888, the atoll was leased for fishing, turtle hunting, and woodcutting. By the turn of the century, according to accounts, it was hard to find a single tortoise on Aldabra. When the Seychelles took over jurisdiction of Aldabra from Mauritius in 1903, some protection was decreed for some species of birds, the few remaining tortoises, and sea turtles, but enforcement was lax.

Fortunately, the commercial exploitation of the atoll remained at a low level. Only a few small parts of the atoll were cleared for coconut planting. In addition, the island does not accumulate guano and thus completely escaped the devastation of guano mining for the fertilizer industry, which ruined many other atolls.

In the following years, little or no conservation work was carried out on Aldabra, although the scientific community recognized the need. Then, in 1953, publicity surrounding a trip to Aldabra by Jacques-Yves Cousteau led to new measures protecting wild birds, tortoises, and other animals on the atoll's South Island and forbidding human settlement there. However, the atoll as a whole remained unprotected.

The closest call yet for Aldabra's wildlife came in the 1960's. At that time, the island was still part of the British Indian Ocean Territory. The British Ministry of Defense had developed plans to build an airstrip on the atoll for use by the British and American air forces and had also agreed to the construction of a British Broadcasting Corporation transmitting station and tower on Aldabra.

The airfield would have been at the east end of South Island in the area of greatest tortoise concentration, and the planes would have flown over the atoll frigate bird colony. There were even proposals to dredge the main channel into the lagoon to form a harbor and to beach a nuclear-powered ship and an aircraft carrier in the lagoon to provide electrical power and a base for the broadcasting tower.

When these plans leaked out in 1966, they ignited one of the greatest international conservation battles of all time. The Royal Society of London and the Smithsonian Institution in the United States mobilized scientific opposition to the schemes. Eventually, the British government dropped the plans for economic reasons.

Subsequently, the British Royal Society launched an intensive program of research on the atoll that continued for more than a decade. One member of the Royal Society expedition was Dr. F. Raymond Fosberg, a Smithsonian National Museum of Natural History botanist and authority on tropical island ecology. Fosberg had helped lead the battle in the United States to

save Aldabra, in cooperation with his colleagues, Dr. Marie-Helene Sachet, also of the Smithsonian, and Dr. David Stoddart, of Cambridge University.

A research station was later built by the Royal Society, and, in 1980, the society turned over the station to the newly independent Republic of Seychelles, which had created the Seychelles Islands Foundation "to manage and conserve the natural life of the group of islands comprising the atoll of Aldabra." The board of trustees of this independent, self-funded charitable trust includes representatives of the Royal Society and the Smithsonian Institution. The Smithsonian contributes an annual sum toward the foundation in addition to raising private funds in the United States for support of the conservation operations on Aldabra. For further information about the foundation, contact Marsha Cox, National Museum of Natural History, Room 421, Smithsonian Institution, Washington, DC 20560.

Thomas Harney
Smithsonian News Service

CONSERVATION PROGRESS IN GHANA

(reprinted from *The Seabird Group Newsletter*, November 1983)

The widespread snaring of terns on the West African coast, and in particular of Roseate Terns in Ghana, was highlighted in a paper in the last *Seabird Group Report*. In a related report in the RSPB's *Birds* magazine of summer 1981 it was concluded that the worsening economic plight of Ghana made it unrealistic to expect imminent progress by the Ghanaian authorities in addressing this problem. Nevertheless, it has always been felt that an initiative by them would be a great boost to a wider commitment. It is, therefore, very heartening news that ICBP (Cambridge) recently received a request from Dr. Emmanuel Asibey, Chief Administrator of the Wildlife Unit in Accra, and from a colleague, K. V. Bailey, seeking assistance in mounting a campaign aimed at educating Ghanaians about the significance of their wintering tern populations, and about the hazards they face. The nature of the programme is likely to include a conservation component in the school curriculum and a visual display centre mounted at a key site near Accra, possibly at the salt lagoons at Panbros, which in the peak winter months provide a roost site for upwards of 30,000 terns of various species. Such a display would serve to increase the awareness of parties of school children and adults alike from the bustling capital of Accra nearby. Alistair Smith and I are preparing an educational package for such a centre, while ICBP may be able to provide some financial aid. Anyone planning to visit Ghana in the near future who might be interested in helping in any way is asked to contact me.

Euan Dunn
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Cumnor
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Hawaiian seabird feeding ecology. 1983. C. S. Harrison, T. S. Hida, and M. P. Seki. Wildlife Monographs No. 85. 71 pp. $4.05. Available from: Executive Director of the Wildlife Society, 5410 Grosvenor Lane, Bethesda, MD 20814.

There have been surprisingly few studies of the diets of entire communities of seabirds. Most research has concentrated on single species or comparisons between two or three species, the latter usually being attempts to measure interspecific competition. The few communitywide diet studies appear to have been disproportionately influential in seabird research. Ashmole and Ashmole's study (1967) of Christmas Island, Belopol'skii's (1957) study of the Bering Sea, and Pearson's (1968) study of the North Sea are prime examples. These studies have generally been confined to single locations or seasons by limitations of people power or logistics. A closer look at the data frequently leaves one with more questions than answers. Perhaps it is the scope of the papers rather than their data that attracts so much interest.

In their study of the diets of Hawaiian seabirds, Harrison et al. have outdone their forerunners, and, at the same time, they may have drawn to a close an era in seabird work. Their study of the diets of 18 species of seabirds in the northwestern Hawaiian Islands (Black-footed Albatross *Diomedea nigripes*, Laysan Albatross *Diomedea immutabilis*, Masked Booby *Sula dactylatra*, Great Frigatebird *Fregata minor*, Brown Booby *Sula leucogaster*, Red-footed Booby *Sula sula*, Red-tailed Tropicbird *Phaethon rubricauda*, Wedge-tailed Shearwater *Puffinus pacificus*, Christmas Shearwater *Puffinis nativitatis*, Brown Noddy *Anous stolidus*, Sooty Tern *Sterna fuscata*, Bonin Petrel *Pterodroma hypoleuca*, Gray-backed Tern *Sterna lunata*, White Tern *Anous=Gygis alba*, Black Noddy *Anous minutus=tenuirostris*, Bulwer's Petrel *Bulweria bulwerii*, Sooty Storm-Petrel *Oceanodroma tristrami*, and Blue-gray Noddy *Procelsterna cerulea*) is by far the most thorough of its genre. The study extended over 10 degrees of latitude, 25 degrees of longitude, 4 years, and at least 10 islands. The 4,315 food samples contained 56 families of fish, 8 families of squid, and 11 taxa of crustacea. If you are interested in any of the species listed or in Pacific or tropical seabird ecology, this is simply an essential reference.

For others who work on seabirds outside the tropics and for marine biologists interested in predators at the top of marine food chains, what does this paper offer? On one level, the methods section sets a standard of explicitness for the study of diets that should be widely emulated. The section appears sufficient to allow replication (still a rarity in our field) of the study: how prey items were identified, how items were counted, and how the data were analyzed are clearly set out. The results are similarly presented.

On another level, the paper is part of what may become a massive perturbation experiment. The study was prompted by plans for the commercial exploitation of fish and spiny lobsters in the northwestern Hawaiian Islands. The study has documented trophic relationships before exploitation. One hopes the work will be continued during fishing, despite possible funding problems. In most seabird communities, we know only what happened after exploitation. A rare chance to be there at the beginning should not be missed. One also hopes that those in charge of managing the islands and fisheries will incorporate diet studies into their management plans. Changes in seabird diets may be one of the few early warnings of communitywide effects induced by fishing.

On a third level, this paper is a good example of the "state of the art" in seabird research. The study's flaws are those of the field as well. I doubt that anyone is going to do a bigger, better, more detailed study that will manage to overcome such flaws. We need perhaps to consider how far this paper takes us and where it falls short, to see where seabird work is heading.

Seabird stomach samples have traditionally been linked to diets by assuming that "what you see is what they eat." This paper is a good example. The relative frequencies of prey types (either by counts of individuals or volume or mass) are supposed to equal relative importance in diets. This assumes, usually implicitly, that all prey types are equally resistant to digestion. Harrison et al., for example, appear to use counts of squid beaks or volumes of squid beaks and flesh combined to compare with similar counts of fish parts or volumes. If, however, differential digestion occurs, such results will be biased. One way around this is to assume that otoliths and squid beaks represent prey items digested faster than prey with intact flesh. If one knows the relation between otolith or beak size and the size of its original owner, then one can calculate the original, pre-digestion masses or volumes for all the prey and thus avoid, in theory, the problem of differential rates of digestion. Another problem remains, however. Otoliths and squid beaks may not be present in the digestive tract merely because the digestion of certain prey is faster than others; instead, such hard parts may persist for days, weeks, even months. A recent study has shown that squid beaks may persist for two months or longer in stomachs of albatrosses, while fish otoliths barely last a day (Furness et al., 1984, Cephalopod beaks and studies of seabird diets, Auk 101). Digestion may take half that time. Any study attempting to combine prey remains that experience such different turnover times will be open to serious bias. In the study by Harrison et al., as in earlier studies, I wonder whether squid are really as important as squid beaks might lead us to believe. We need more studies of digestion rates and residence times of prey parts in seabird stomachs if studies of seabird are to proceed beyond what Harrison and company have done.

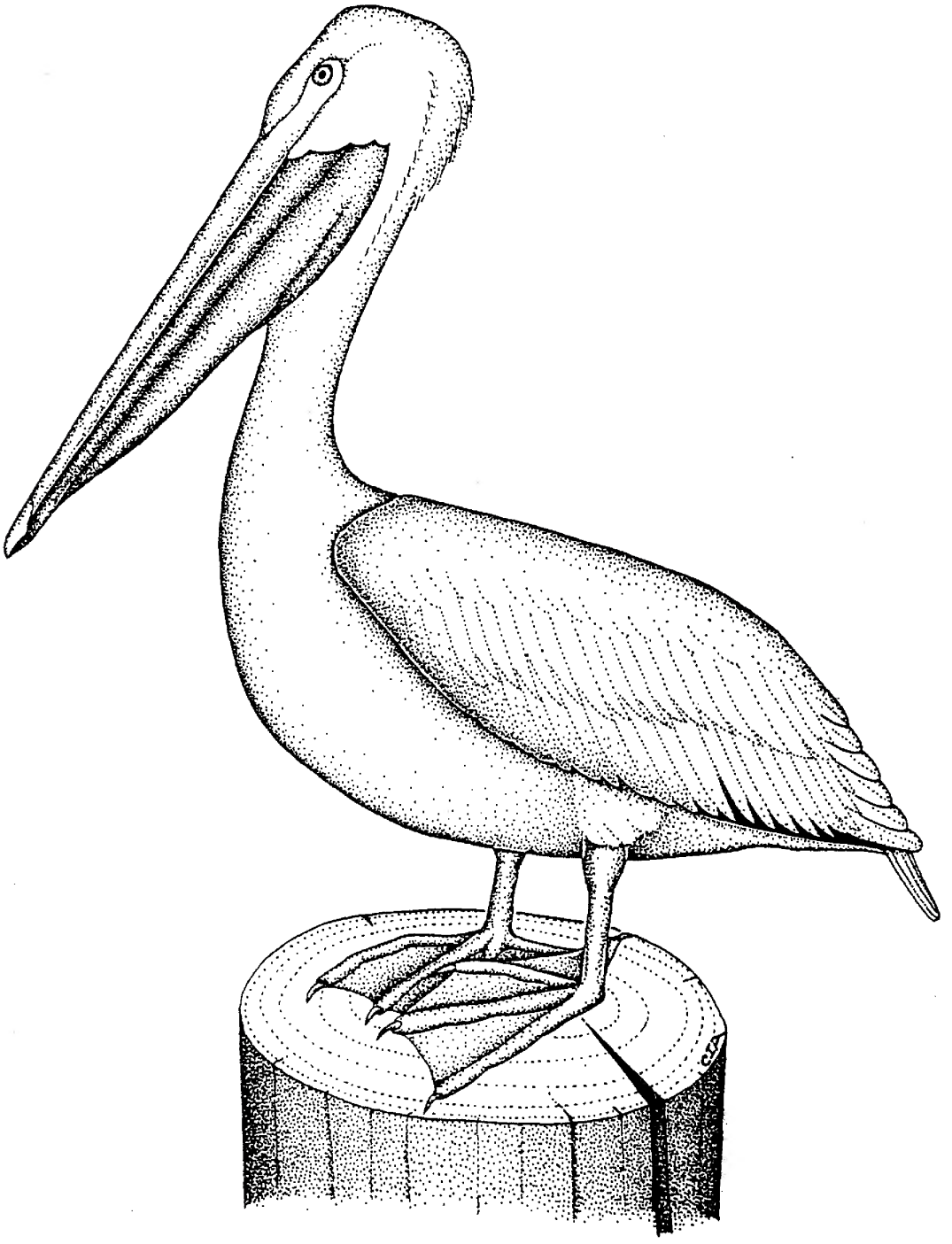
Another drawback of this paper, as of all diet studies, is that there is no way of translating relative abundances of prey in seabird diets into absolute abundances in the marine environment. Diets of species differed between seasons and among the different sites sampled. For example, did the presence of Pacific saury in the diet of Red-tailed Tropicbirds during winter at Midway Island indicate a local abundance of saury or a shortage of other, perhaps preferred prey? How much "niche partitioning" by size or species of prey was selection by birds for particular sizes and species and how much was the consequence of a choice of foraging area? The authors are well aware of these problems. Their study stands on its own as a solid piece of work, but how many more one-or two-species studies can the rest of us do if we cannot answer this question?

We need to tie our efforts to more biological sampling of the prey of seabirds. Unfortunately, this is more easily said than done. There is a great gap in marine research between marine biologists with their interest in primary productivity and plankton and fisheries biologist with their fixation on exploitable, if not edible, fish, which are usually larger than those taken by seabirds. Ornithologists wishing to link diets to availability might be advised to tackle areas such as upwellings where small, bird-sized fish are commercially important and thus are studied or to work on species which eat zooplankton.

Finally, despite the insights into the species' marine ecologies in the discussion, this is a colony-based study. I wonder whether, tucked away in field notebooks, there is not sufficient material to discuss the distribution and behavior of seabirds at sea in the northwestern Hawaiian Islands at the time of the study. It would be a rare opportunity to link colony studies of foraging with direct observation. Could the one be used to test conclusions derived from the other? If such data are not available, I hope that someone does such a study at sea before fishing becomes intensive enough to change things.

After a study such as this one, can we take communitywide diet studies much further? This study could certainly be repeated in other seabird communities, but what will repetition add to our general knowledge of how seabirds interact with the marine environment? With over 300

species that could be considered seabirds, there are ample opportunities for replication and the employment of ornithologists. Funding agencies may well ask what further studies will tell us. We should be asking ourselves.-David Cameron Duffy, Percy FitzPatrick Institute of African Ornithology, University of Cape Town, Rondebosch 7700, South Africa.



NEW PUBLICATIONS

A Guide to Little Tern Conservation (reprinted from *The Seabird Group Newsletter*, November 1983)

This 114-page spiral-bound guide with its eight sections and three appendices is expertly and practically researched. The main sections concern general biology, recording, human disturbance and wardening, tidal flooding, effects of bad weather, miscellaneous management techniques, predation, diseases, and toxic residues. Three appendices cover ringing, finance, resource and labour for conservation projects and nature reserves, conservation organisations, their abbreviated titles and addresses.

The attention to detail is to be applauded as there seems very little concerning Little Terns that could be added. This guide is absolutely essential reading for all concerned with Little Terns, but its general approach and practical suggestions for management, etc., could well be applied to other tern species. Anyone with even the slightest interest in terns would be well rewarded by purchasing a copy. Available (price £2.00) from Mike Everett, RSPB, The Lodge, Sandy, Bedfordshire SG19 20L, U. K.

Adrian del-Nevo